

FORM PTO-1390 (REV. 1-98)		U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER <b>04851/</b>
<b>TRANSMITTAL LETTER TO THE UNITED STATES</b> <b>DESIGNATED/ELECTED OFFICE (DO/EO/US)</b> <b>CONCERNING A FILING UNDER 35 U.S.C. 371</b>			U S APPLICATION NO. (If known, see 37 CFR 1.5) <b>Applied <del>09</del> / 786164</b>
INTERNATIONAL APPLICATION NO. <b>PCT/DE99/02836</b> ✓	INTERNATIONAL FILING DATE <b>7 Sept. 1999 (7/9/99)</b> ✓	PRIORITY DATE CLAIMED <b>7 Sept. 1998 (7/9/98)</b> ✓	
TITLE OF INVENTION <b>Method For Improving The Security of Authentication Procedures in Digital Mobile Radio Telephone Systems</b> ✓			
APPLICANT(S) FOR DO/EO/US <b>Hake, Jens; Thelen Jorg</b> ✓			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
1.	<input checked="" type="checkbox"/>	This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.	
2.	<input type="checkbox"/>	This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.	
3.	<input checked="" type="checkbox"/>	This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 37 (b) and PCT Articles 22 and 39(1).	
4.	<input type="checkbox"/>	A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.	
5.	<input checked="" type="checkbox"/>	A copy of the International Application as filed (35 U.S.C. 371(c)(2))	
	a. <input type="checkbox"/>	is transmitted herewith (required only if not transmitted by the International Bureau).	
	b. <input checked="" type="checkbox"/>	has been transmitted by the International Bureau.	
	c. <input type="checkbox"/>	is not required, as the application was filed in the United States Receiving Office (RO/US).	
6.	<input type="checkbox"/>	A translation of the International Application into English (35 U.S.C. 371(c)(2)).	
7.	<input type="checkbox"/>	Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))	
	a. <input type="checkbox"/>	are transmitted herewith (required only if not transmitted by the International Bureau).	
	b. <input type="checkbox"/>	have been transmitted by the International Bureau.	
	c. <input type="checkbox"/>	have not been made; however, the time limit for making such amendments has NOT expired.	
	d. <input type="checkbox"/>	have not been made and will not be made.	
8.	<input type="checkbox"/>	A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).	
9.	<input type="checkbox"/>	An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).	
10.	<input type="checkbox"/>	A translation of the annexes of the International Preliminary Examination Report under PCT Article 36	
11.	<input type="checkbox"/>	An Information Disclosure Statement under 37 CFR 1.197 and 1.98	
12.	<input type="checkbox"/>	An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.	
13.	<input type="checkbox"/>	A FIRST preliminary amendment.	
	<input type="checkbox"/>	A SECOND or SUBSEQUENT preliminary amendment.	
14.	<input type="checkbox"/>	A substitute specification.	
15.	<input type="checkbox"/>	A change of power of attorney and/or address letter.	
16.	<input type="checkbox"/>	Other items or information:	

U.S. APPLICATION NO. (If and when fee 37 CFR 1.9)  
Applied For **09/786164**INTERNATIONAL APPLICATION NO.  
PCT/DE99/02836532 Rec'd PCT 770  
04851/

28 FEB 2001

17. ☒ The following fees are submitted

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Neither international preliminary examination fee (37 CFR 1.482)  
nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO  
and International Search Report not prepared by the EPO or JPO \$1000.00

International preliminary examination fee (37 CFR 1.482) not paid to  
USPTO but International Search Report prepared by the EPO or  
JPO \$860.00

International preliminary examination fee (37 CFR 1.482) not paid to  
USPTO but international search fee (37 CFR 1.445(a)(2)) paid to  
USPTO \$710.00

International preliminary examination fee (37 CFR 1.482) paid to  
USPTO but all claims did not satisfy provisions of PCT Article  
33(1)-(4) \$690.00

International preliminary examination fee (37 CFR 1.482) paid to  
USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)  
\$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

CALCULATIONS PTO USE ONLY

\$ 860.00

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20  
☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).

\$

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$
Total claims	- 20 =	0	X \$18.00	\$
Independent claims	- 3 =	0	X \$80.00	\$
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+\$ 270.00	\$
<b>TOTAL OF ABOVE CALCULATIONS</b>			<b>=</b>	\$
Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28)			--	\$
<b>SUBTOTAL</b>			<b>=</b>	\$ 860.00
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$
<b>TOTAL NATIONAL FEE</b>			<b>=</b>	\$
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40 per property				\$
<b>TOTAL FEES ENCLOSED</b>			<b>=</b>	\$ 860.00
			Amount to be refunded:	\$
			charged:	\$

\$

Total claims - 20 = 0 X \$18.00 \$

Independent claims - 3 = 0 X \$80.00 \$

MULTIPLE DEPENDENT CLAIM(S) (if applicable) +\$ 270.00 \$

**TOTAL OF ABOVE CALCULATIONS** = \$

Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) -- \$

**SUBTOTAL** = \$ 860.00Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)). \$**TOTAL NATIONAL FEE** = \$

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40 per property \$

**TOTAL FEES ENCLOSED** = \$ 860.00

Amount to be refunded:

\$

charged:

\$

- a. ☒ A check in the amount of \$860.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 16-1435. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

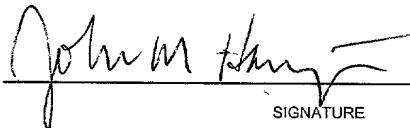
SEND ALL CORRESPONDENCE TO:

John M. Harrington Esq.

KILPATRICK STOCKTON LLP

1001 West Fourth Street

Winston-Salem, NC 27101



SIGNATURE

Name: John M. Harrington

Registration No. 25,592

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Hake, Jens, et al.  
Application No.: 09/786,164  
Filed: February 28, 2001  
For: METHOD FOR IMPROVING THE SECURITY OF  
AUTHENTICATION PROCEDURES IN DIGITAL  
MOBILE RADIO TELEPHONE SYSTEMS

Assistant Commissioner for Patents  
Attention: Box PCT  
Washington, DC 20231

**Preliminary Amendment**

Sir:

Please amend the above-identified application as follows:

*In the Claims:*

Please amend the claims as follows:

3. (amended) Procedure, according to claim 2, is characterized by the mobile radio network that, with special algorithms under specification of a random number (RAND) determines a SRES/KC-pair for all SIM-specific codes (KI) forming, with the respective RAND, RAND/SRES/KC-triplets.
4. (amended) Procedure, according to claim 3, is characterized by the formed RAND/SRES/KC-triplets that are stored in the mobile radio network.
5. (amended) Procedure, according to claim 4, is characterized by a RAND of one of these triplets, that is sent to the subscriber identification module from the mobile radio network to initiate the authentication.
6. (amended) Procedure, according to claim 5, is characterized by the subscriber identification module that calculates the corresponding values for SRES and KC by

the transmitted RAND and the selected code (KI), and sends the determined answer to the mobile radio network.

7. (amended) Procedure, according to claim 6, is characterized by the comparison made to verify agreement or conformity of the received SRES with all of the stored SRES for the utilized RAND in the mobile radio network.

8. (amended) Procedure, according to claim 7, is characterized by the mobile radio network and the SIM, which is used to encode the transfer or transmission of the matching SRES corresponding KC.

**REMARKS**

The foregoing Amendment eliminates multiple dependent claims. Accordingly, the Amendment places the application in better condition prior to examination and adds no new matter.

### Version With Markings to Show Changes Made

#### Amendments in the Claims:

In accordance with 37 CFR 1.121(c), the following versions of the claims as rewritten by the foregoing amendment show all the changes made relative to the previous versions of the claims.

3. (amended) Procedure, according to [claims 1 or 2] claim 2, is characterized by the mobile radio network that, with special algorithms under specification of a random number (RAND) determines a SRES/KC-pair for all SIM-specific codes (KI) forming, with the respective RAND, RAND/SRES/KC-triplets.

4. (amended) Procedure, according to [one of the claims 1 to 3] claim 3, is characterized by the formed RAND/SRES/KC-triplets that are stored in the mobile radio network.

5. (amended) Procedure, according to [one of the claims 1 to 4] claim 4, is characterized by a RAND of one of these triplets, that is sent to the subscriber identification module from the mobile radio network to initiate the authentication.

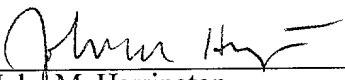
6. (amended) Procedure, according to [one of the claims 1 to 5] claim 5, is characterized by the subscriber identification module that calculates the corresponding values for SRES and KC by the transmitted RAND and the selected code (KI), and sends the determined answer to the mobile radio network.

7. (amended) Procedure, according to [one of the claims 1 to 6] claim 6, is characterized by the comparison made to verify agreement or conformity of the received SRES with all of the stored SRES for the utilized RAND in the mobile radio network.

8. (amended) Procedure, according to [one of the claims 1 to 7] claim 7, is characterized by the mobile radio network and the SIM, which is used to encode the transfer or transmission of the matching SRES corresponding KC.

Respectfully submitted,

Date: 5/24/01

  
\_\_\_\_\_  
John M. Harrington  
Attorney for Applicant  
Registration No. 25,592  
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Winston-Salem, NC 27101  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : HAKE, Jens, et al.  
Serial No. : 09/786,164  
Filed : February 28, 2001  
Art Unit : Unknown  
Examiner : Unknown  
For : METHOD FOR IMPROVING THE SECURITY OF  
AUTHENTICATION PROCEDURES IN DIGITAL  
MOBILE RADIO TELEPHONE SYSTEMS

**Assistant Commissioner for Patents**  
**Box MISSING PARTS**  
**Washington, D.C. 20231**

**STATEMENT OF ACCURACY OF TRANSLATION**  
**(37 C.F.R. §§ 1.52(d), 1.55(a), 1.69)**

I, the below named translator, hereby state:

My name and post office address are as stated below;

That I am knowledgeable in the English language and in the language of the

☐ attached document

☒ below identified document

and I believe the attached English translation to be a true and complete translation of this document.

The Document for which the attached English translation is being submitted was filed in the United States Patent and Trademark office as "Verfahren zur Erhöhung der Sicherheit



von Authentisierungsverfahren in digitalen Mobilfunksystemen" (Original German Language Specification, Appln. No. 198 40 742.4).

☐ This foreign language document was filed in the PTO on February 28, 2001.  
(date)

Full name of the translator Caroline Simmen Domenig

Signature of the translator Caroline Simmen Domenig

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04851-254423  
WINLIB01:882965.1

Rec'd POT/PTO 24 MAY 2001

Description

Procedure to Increase the Security of Authentication  
Processes in Digital Mobile Radio Systems

The invention concerns a procedure for the increased security of authentication processes for digital mobile radio system, according to the characterizing clause of patent claim 1.

Modern mobile radio networks have special security features and precautions, which prevent unauthorized use of operating equipment or resources by anyone other than authorized persons and protects against possible eavesdropping or tapping of radio operations. The security measures refer, therefore, to the protection of the relationship between the mobile radio network and the authorized user. A special procedure for authorizing the user will prevent a third party from stealing the authorized user's identity. By comparing his subscriber identification module with the stored data and functions in the mobile radio network, a user must be authenticated. In the past, it has been shown over and over that authentication processes can be compromised (i.e. spying on the subscriber's secret code KI) with specialized knowledge and the right equipment, and that this is possible by sequencing random numbers and response numbers (that is, RAND / SRES pairs) that can be subjected in larger quantities to mathematical procedures, in order to determine the secret code KI of a user. Once the secret code KI has been determined, an illegal duplication of the subscriber's identification module is possible.

With the authentication processes currently being used, the mobile radio network uses special algorithms and a SIM-specific secret code KI from a random value RAND for an authentication result SRES and a temporary code KC. In this way, the mobile radio network has a certain number of RAND/SRES/KC-triplets. If a user want to sign in, the mobile radio network transmits a random number RAND to the subscriber's identification module SIM. The SIM determines, with the same special algorithms and its SIM-specific secret code KI, a corresponding SRES/KC-pair and send the determined SRES back to the mobile radio network. The mobile radio network compares the received SRES with the previously held SRES to see if they conform so that a match authenticates the subscriber. The code KC is calculated and evaluated on both sides to encode the transmission.

As previously stated, with the procedures currently being used, it is possible to compromise or spy on the code KI in order to gain unauthorized access to the mobile radio network.

The present invention is based on the task of improving the security of the authentication procedures of digital mobile radio systems, which make it nearly impossible to discover the secret codes.

The characterizing features in patent claim 1 solve the task.

The invention is based, thus, on the fact that there are several various secret SIM-specific codes KI stored in the subscriber's identification module in the mobile radio network and selects a code from several pre-held secret codes for the completion of the authentication between the subscriber's identification module and the mobile radio network.

The advantage of this procedure is based on the fact that a compromise (i.e. spying or ferreting out the secret code KI) of the SIM is made substantially more difficult because it is not foreseeable nor discernable to the "aggressor" or "attacker" which secret code KI of the SIM is being used to calculate the SRES answer.

Another essential advantage of this procedure is that a modification to the (interface) operations of the mobile radio network, in particular the air operations (interface) is not necessary. Likewise, no modification at the terminals or end equipment must be made. Only local software-technical modifications at individual network components of the mobile radio network, as well as on the SIM, are necessary and these are feasible without hardly any costs and very little expenditure.

Advantageously, the selection of used codes KI result from the SIM according to the random principle.

In a preferred embodiment, the mobile radio network determines with special algorithms under specifications, respectively, a SRES/KC-pair from random number RAND for all SIM-specific codes KI of a user, and forms the so-called RAND/SRES/KC-triplets with the respectively used RAND. The triplet is held in the mobile radio network and can be called upon for future authentication procedures.

For starting up an authentication, the mobile radio network transmits a random value RAND of one of these triplets to the subscriber identification module SIM, and then, the subscriber identification module selects an available code on the basis of the transmitted RAND and calculates the appropriate values for the SRES response and the code KC on the basis of this selected code KI and sends back the SRES response to the mobile radio network.

In the mobile radio network, a comparison now takes place to determine the conformity or matching of the received response SRES to all the SRES values held for the used RAND so that if a match is met between two user specific responses SRES, the user's authentication is validated.

Preferably, the mobile radio network will now use the corresponding SRES belonging to the KC to encode the transfer or transmission so that the identical code KC is available in the SIM and is also used for the encoding of the transmission.

Subsequently, an embodiment of the invention is explained more closely in a drawing representation. Further characteristics, features and advantages of the invention are shown in the drawing and corresponding description.

Figure 1 shows an authentication procedure in a simplified representation according to the invention. In order to complete the procedure, several secret codes KI must be stored for each user in the mobile radio network and, also, in the subscriber identification module.

Mobile radio network:	User X		
	KI 1	KI 2	KI 3
RAND 1	SRES/KC (1,1)	SRES/KC (1,2)	SRES/KC (1,3)
RAND 2	SRES/KC (2,1)	SRES/KC (2,2)	SRES/KC (2,3)
RAND 3	SRES/KC (3,1)	SRES/KC (3,2)	SRES/KC (3,3)
...	...	...	...

As shown in the table above, for example, three secret codes KI are set aside in the mobile radio network for each subscriber X so that now the mobile radio network has settings of several random numbers RAND 1, RAND 2 and RAND 3 and, in each case, secret codes KI 1, KI 2 and KI 3 that calculate and store corresponding SRES responses and codes KC.

Also in the subscriber identification module for the subscriber or user X, three possible codes KI 1, KI 2 and KI 3 are set aside.

If the user want to check into the mobile radio network, the authentication procedures must first be completed, as is shown in figure 1. The subscriber identification module first transmits the subscriber identity number IMSI over an appropriate terminal or end device to the mobile radio network. If this IMSI is recognized as admissible, then the mobile radio network chooses a random value from a stored random value RAND for the user X (here, for example, RAND 3) and sends this back to the subscriber identification module. The subscriber identification module selects again one of the user specific secret codes KI (for example, KI 2) and from the RAND 3 and the KI 2, calculates the corresponding SRES response and the code KC received by the mobile radio network. The SRES response, that was formed from the code KI 2 and the RAND 3, is transmitted back to the mobile radio network and compared with the stored SRES value to KI 2 and RAND 3. If these SRES values correspond, then the user is considered authenticated and can check into mobile radio network. The available codes KC are utilized on both sides during the newly-made connection to encode the data communication.

T E S T E D

### Patent Claims

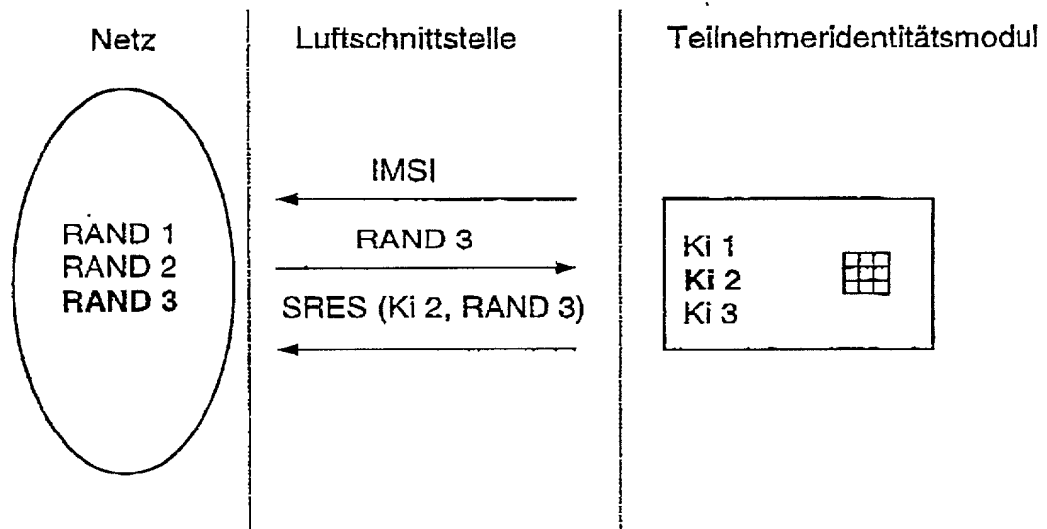
1. Procedure for the increased security of authentication processes in digital mobile radio systems is characterized by several different secret SIM-specific codes (KI) that are stored in the mobile radio network and in the subscriber identification module (SIM), and one code (KI) that is selected for the execution of the authentication between subscriber identification module and the mobile radio network of the SIM from several stored secret codes.
2. Procedure, according to claim 1, is characterized by the selection of the code (KI) by the subscriber identification module (SIM), according to the random principle.
3. Procedure, according to claims 1 or 2, is characterized by the mobile radio network that, with special algorithms under specification of a random number (RAND) determines a SRES/KC-pair for all SIM-specific codes (KI) forming, with the respective RAND, RAND/SRES/KC-triplets.
4. Procedure, according to one of the claims 1 to 3, is characterized by the formed RAND/SRES/KC-triplets that are stored in the mobile radio network.
5. Procedure, according to one of the claims 1 to 4, is characterized by a RAND of one of these triplets, that is sent to the subscriber identification module from the mobile radio network to initiate the authentication.



6. Procedure, according to one of the claims 1 to 5, is characterized by the subscriber identification module that calculates the corresponding values for SRES and KC by the transmitted RAND and the selected code (KI), and sends the determined answer to the mobile radio network.
7. Procedure, according to one of the claims 1 to 6, is characterized by the comparison made to verify agreement or conformity of the received SRES with all of the stored SRES for the utilized RAND in the mobile radio network.
8. Procedure, according to one of the claims 1 to 7, is characterized by the mobile radio network and the SIM, which is used to encode the transfer or transmission of the matching SRES corresponding KC.

09/786164

1/1



FIGUR 1

# Declaration and Power of Attorney for Patent Application

## Erklärung für Patentanmeldungen mit Vollmacht

### German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

As a below named inventor, I hereby declare that:

daß mein Wohnsitz, meine Postanschrift und meine Staatsangehörigkeit den im nachstehenden nach meinem Namen aufgeführten Angaben entsprechen, daß ich nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den den ein Patent für die Erfindung mit folgendem Titel ertragt wird:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Method for Improving the Security of Authentication Procedures In Digital Mobile Radio Telephone Systems

Method for Improving the Security of Authentication Procedures In Digital Mobile Radio Telephone Systems

deren Beschreibung hier beigefügt ist, es sei denn (in diesem Falle Zutreffendes bitte ankreuzen), diese Erfindung

the specification of which is attached hereto unless the following box is checked:

- ☒ wurde angemeldet am 28 February 2001 unter der US-Anmeldenummer oder unter der Internationalen Anmeldenummer im Rahmen des Vertrags über die Zusammenarbeit auf dem Gebiet des Patentwesens (PCT) 09/786,164 und am 28 February 2001 abgeändert (falls zutreffend).

- ☒ was filed on February 28, 2001 as United States Application Number or PCT International Application Number 09/786,164 and was amended on February 28, 2001 (if applicable).

bestätige hiermit, daß ich den Inhalt der oben angegebenen Patentanmeldung, einschließlich der Ansprüche, die eventuell durch einen oben erwähnten Zusatzantrag abgeändert wurde, durchgesehen und verstanden habe

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

Ich erkenne meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Titel 37, Code of Federal Regulations, § 1.56 von Belang sind.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

**German Language Declaration**

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäß Title 35, United States Code, § 119 (a)-(d), bzw. § 365(b) aller unten aufgeführten Auslandsanmeldungen für Patente oder Erfinderurkunden, oder § 365(a) aller PCT internationalen Anmeldungen, welche wenigstens ein Land ausser den Vereinigten Staaten von Amerika benennen, und habe nachstehend durch ankreuzen sämtliche Auslands- anmeldungen für Patente bzw. Erfinderurkunden oder PCT internationale Anmeldungen angegeben, deren Anmeldetag dem der Anmeldung, für welche Priorität beansprucht wird, vorangeht.

Prior Foreign Applications  
(Frühere ausländische Anmeldungen)

19840742 4 DE (Country)  
(Number) (Land)  
(Number)  
9902836 PCT (Country)  
(Number) (Land)  
(Number)

Ich beanspruche hiermit Prioritätsvorteile unter Title 35, US-Code, § 119(e) aller Hilfsanmeldungen wie unten aufgezählt.

(Application No.) (Filing Date)  
(Aktenzeichen) (Anmeldetag)

(Application No.) (Filing Date)  
(Aktenzeichen) (Anmeldetag)

Ich beanspruche hiermit die mir unter Title 35, US-Code, § 120 zustehenden Vorteile aller unten aufgeführten US-Patentanmeldungen bzw. § 365(c) aller PCT internationalen Anmeldungen, welche die Vereinigten Staaten von Amerika benennen, und erkenne, insofern der Gegenstand eines jeden früheren Anspruchs dieser Patentanmeldung nicht in einer US-Patentanmeldung, bzw. PCT internationalen Anmeldung in in einer gemäß dem ersten Absatz von Title 35, US-Code, § 112 vorgeschriebenen Art und Weise offenbart wurde, meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Title 37, Code of Federal Regulations, § 1.56 von Belang sind und die im Zeitraum zwischen dem Anmeldetag der früheren Patentanmeldung und dem nationalen oder im Rahmen des Vertrags über die Zusammenarbeit auf dem Gebiet des Patentwesens (PCT) gültigen internationalen Anmeldetags bekannt geworden sind.

(Application No.) (Filing Date)  
(Aktenzeichen) (Anmeldetag)

(Application No.) (Filing Date)  
(Aktenzeichen) (Anmeldetag)

Ich erkläre hiermit, daß alle in der vorliegenden Erklärung von mir gemachten Angaben nach bestem Wissen und Gewissen der Wahrheit entsprechen, und ferner daß ich diese eidesstattliche Erklärung in Kenntnis dessen ablege, daß wissenschaftlich und vorsätzlich falsche Angaben oder dergleichen gemäß § 1001, Title 18 des US-Code strafbar sind und mit Geldstrafe und/oder Gefängnis bestraft werden können und daß derartige wissenschaftlich und vorsätzlich falsche Angaben die Rechtswirksamkeit der vorliegenden Patentanmeldung oder eines aufgrund deren erteilten Patentes gefährden können.

I hereby claim foreign priority under Title 35, 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed  
Priorität nicht beansprucht

9/7/98 ☐  
(Day/Month/Year Filed)  
(Tag/Monat/Jahr der Anmeldung)

9/7/99 ☐  
(Day/Month/Year Filed)  
(Tag/Monat/Jahr der Anmeldung)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status) (patented, pending, abandoned)  
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**German Language Declaration**

**VERTRETUNGSVOLMACHT:** Als benannter Erfinder beauftrage ich hiermit den (die) nachstehend aufgeführten Patentanwalt (Patentanwälte) und/oder Vertreter mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Angelegenheiten vor dem US-Patent- und Markenamt: (Name(n) und Registrationsnummer(n) auflisten)

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

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